

SECRET

ROUTING AND RECORD SHEET

SUBJECT: (Optional)

Update to New Building Project Management Plan

FROM:

EXTENSION

NO.

OC-6175-84

Chief, Engineering Division, OC

DATE

20 DEC 1984

TO: (Officer designation, room number, and building)

DATE

OFFICER'S INITIALS

COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)

1.

C/NBPO, OL

11/21

FELU

2.

Jerry

11/23

Bil

3.

4.

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15.

2: How does this fit with the OC submission on same matter?

2 to 1: The attached summary indicates a significant disparity between the latest budget figures (FY86) and the OC Plan. I will arrange to talk to next week for an explanation. The same situation exist with report to ODP.

12/6

Hunder

S E C R E T

OC-6175-84
20 NOV 1984

MEMORANDUM FOR: Chief, New Building Project Office, OL

25X1 FROM:

Chief, Engineering Division, OC

25X1 SUBJECT: Update to New Building Project Management Plan

25X1 Attached is an FY-85 version of Section III Communications for
use in updating the New Building Project Management Plan.

25X1

Attachment:
As Stated

Memorandum downgraded to "Confidential"
upon removal of Attachment.

25X1 WARNING NOTICE - INTELLIGENCE
SOURCES OR METHODS INVOLVED

S E C R E T

S E C R E T

III. COMMUNICATIONS

This section documents the resources and schedules required for architectural development, system design, procurement and implementation of communications systems and functions required in the new building and those required in the old building for system compatibility and connectivity. Additionally, the OC communications operations center will be relocated to the new building and is included in the communications program.

The communications program for the new building is managed by the New Building Communications Program Office, OC-ED (OC-ED/BPO). The Building Communications Working Group (BCWG), comprised of representatives from various OC components and chaired by Chief, BPO, will be the primary mechanism for deriving coordinated operational and technical criteria from which architectures, designs, specifications, contracts and implementation plans will be developed. Representatives of other offices will be requested to participate in BCWG meetings concerning subjects of mutual interest. Chief, BPO, will represent OC on the Technical Advisory Panel under NBPO/OL. The BPO will be assisted in program management and documentation control by a systems engineering or systems integration contractor; major projects will be accomplished under contract with several technical architectural and engineering firms, as well as other contractors who will manufacture and/or install the communications systems. The program schedule being developed will ensure that the appropriate communications systems are operational within the new building when occupancy begins in July 1987. The major communications projects are:

- Non-secure Telephone System
- Secure Telephone & Data Distribution
- Video Distribution System and Fiber Wiring
- Fiber Based Local Area Network
- Inter-Building Communications System
- Transmission Systems
- Communications Operations Center
- RF Shield

S E C R E T

1. NON-SECURE TELEPHONE SYSTEM

A. Description/Scope - A new non-secure telephone system will be installed in the old and new Headquarters Buildings. The new switches will either be a PBX of the type to be installed as the secure system in the old and new buildings or they will be a version of the [redacted]

[redacted] A decision will be made as part of the contract award for the non-secure system.

B. Purpose - The present non-secure telephone system is a very old, mechanical, stepping type system which occupies considerable space in the old Headquarters Building. On the basis of an A-76 study, a new system will be procured vice continued leasing from the telephone company. The non-secure telephone system will be sized for all officers who need it. Because the secure telephone system is planned for all officers in the Headquarters Buildings and at outbuildings via the CISVN, the goal is to provide only a very basic telephone capability with the non-secure service.

C. Resources/Staffing - FY-85 [redacted] funding provides for the procurement of the PBX, instruments, and non-secure cable plant wire. Approximately [redacted] instruments will be procured in FY-85 with optional per year quantities [redacted] instruments. In the new building cable plant installation will begin in FY-86 and cable and instrument installation will continue through full building occupancy in FY-88. FY-86-90 funding [redacted] will provide for contract operations and maintenance including a full complement of spares. The non-secure telephone system project is under the direct cognizance of an OC-ED project manager and installation of the system will be accomplished by contractors.

D. Schedule		Old Bldg.	New Bldg.
Phase 1	Architecture Requirements, Analysis, Selection	9/83-4/84	9/83-4/84
Phase 2	System Design/Specification/Award	4/84-3/85	4/84-3/85
Phase 3	Acquisition	3/85-10/85	3/85-11/86
Phase 4	Installation/Transition	4/85-4/86	4/86-4/87

S E C R E T

E. Risk Assessment - Risks associated with both options for the non-secure telephone system will be evaluated. There is some schedule risk related to reuse of the current secure switch equipment. Installation within the old building will be time consuming due to installation in an occupied building and the need to perform a smooth transition from the old system. Cost risks are considered minimal and are primarily concerned with the ability to use the old non-secure grid or not.

F. Space Requirements - Space requirements are being determined pending a switch decision but are expected to be approximately 5175 sq. ft. for equipment in the old building and the previously identified space in the new building.

S E C R E T

2. SECURE TELEPHONE AND DATA DISTRIBUTION SYSTEM

25X1 A. Description/Scope - The secure telephone system will be a
25X1 PBX capable [redacted]

[redacted] The system will become a part of the CISVN which interfaces with similar secure voice systems at other government agencies. A large percentage of the existing and planned data terminals installed in the old building are also planned to be connected to the digital data services of the PBX. Switchable connections to the various computer centers and host computer systems in the old and new buildings will thus be accomplished.

B. Purpose - The purpose of the secure telephone system is to provide the means for CIA officers to discuss classified information telephonically with other officers within CIA and the Intelligence Community. The secure voice system is THE telephone system for the Agency and will provide a full range of services on a full-time basis. The ability to utilize the wiring and hardware of the secure voice system for low to medium speed data terminal connections will provide the most flexible distribution system available with current technology. Though not all data terminals will be connected to the PBX, a large majority will, such that installation and relocation become simpler tasks than before.

25X1 C. Resources/Staffing - Studies completed during FY-84 resulted in the combination of the secure voice and lower-speed data distribution services. Funding in FY-85 [redacted] provides for procurement of the old building secure voice PBX, instruments, and cable plant wiring. A decision will be made at contract award as to viability of using the existing old building secure grid for the new PBX system. FY-86 funds [redacted] are
25X1 programmed for procurement of the new building PBX, [redacted]
25X1 instruments and cable plant wiring. FY-87 [redacted] funds are
25X1 programmed to add significant data distribution capabilities to both switches. Cable and instrument installation occur from FY-86 to FY-88 with very gradual transition of data terminal equipment from the existing wire grid to the PBX in the old
25X1 building. FY-86-90 funding [redacted] will provide for contract operations and maintenance including a full complement of spares. This project is under the direct cognizance of an OC-ED project manager and installation of the system will be accomplished by contractors.

S E C R E T

D. Schedule		Old Bldg.	New Bldg.
Phase 1	Architecture Requirements, Analysis, Selection	7/83-6/84	7/83-6/84
Phase 2	System Design/Specification/Award	6/84-3/85	6/84-3/85
Phase 3	Acquisition	3/85-6/85	3/85 11/86
Phase 4	Installation/Transition	4/85-1/86	4/86-4/87

25X1 E. Risk Assessment - The risk associated with cost/funding is considered minimal. Scheduling contains more risk in the areas of use of the old secure grid, identification of space and site preparation for the installations, and transition questions related to reuse of the [] for the non-secure system. In the new building, cabling must occur prior to the beneficial occupancy date in order to lower the schedule risk.

F. Space Requirements - The system will require 4200 square feet in close proximity to the current main distribution frame room in the old building, and the identical space in the new building.

S E C R E T

3. VIDEO DISTRIBUTION SYSTEM AND FIBER WIRING

A. Description/Scope - A requirement to provide a non-broadcast scheme for distribution of classified and unclassified video transmissions was identified as part of the requirements gathering exercise. In addition, it was recognized that some high data rate transmissions to support graphics and imagery devices in both buildings would require support by means other than a PBX. The projected system would involve the installation of fiber optic cabling in both the old and new buildings with both point-to-point high bandwidth data terminal support and a video distribution system utilizing the fiber media.

B. Purpose - The communications installation and upgrade activity projects the installation of a system which will support the Agency needs for a 20 year period. As more and more high speed terminal devices and television monitors are required, a high bandwidth system will become more necessary. Technology currently does not support commercial fiber optic local area networks for the number of devices we project. The purpose of this project is to lay the backbone wiring for a future acquisition of a fiber based local area network which will be capable of transmitting hundreds of megabits to each workstation.

25X1 C. Resources/Staffing - FY-85 and FY-86 funds are programmed to procure an incremental fiber wiring capability in FY-85 and FY-86. The acquisition of a fiber based LAN is planned as a later procurement.

D. Schedule

Phase 1	Architecture Requirements, Analysis, Selection	Jul 83 - Jun 84
Phase 2	System Design/Specification/ Award	Jun 84 - Mar 85
Phase 3	Acquisition	Mar 85 - Jan 87
Phase 4	Installation/Transition	Apr 86 - Dec 87

E. Risk Assessment - Cost/funding risk is assumed minimal. Some technical risk is possible for video using fiber as the media.

F. Space - Currently documented requirements for the fiber wiring frame are 600 sq. ft. in the old building and 600 sq. ft. in the new building and are included as part of the space projection for secure systems in each. An additional 600 sq. ft. is needed in each building for the video head-end equipment.

S E C R E T

4. FIBER-BASED LOCAL AREA NETWORK

A. Description/Scope - As Agency needs for graphics and imagery devices grow, a system will be needed to provide higher bandwidth support from the computer to the device. As those devices are able to implement multiple connections simultaneously, point-to-point and PBX architectures will no longer provide adequate support. This project undertakes the initial procurement and installation of a fiber based local area network to provide such services. A gradual transition of some devices from the PBX to the LAN is planned to begin in the 1988 timeframe.

B. Purpose - The PBX architecture is viewed as providing excellent support to a number of existing and planned devices in the early stages of the new building occupancy. The requirements of some current devices and many planned devices exceed the data handling capabilities of the PBX. Initially, the high speed devices will use point-to-point fiber connections, but as their numbers and needs for network services (such as switchability) increase, another solution is needed. The fiber LAN is planned to have some degree of integration to the PBX as well.

25X1
25X1 C. Resources/Staffing - FY-87 funds [] are programmed to acquire the projected system. Additional FY-88 funds [] are available to expand the LAN and to extend the secure data distribution system to remaining outbuildings. Connect charges are now projected at \$1000 per device, though prices are expected to drop. One hundred percent utilization of this system is not envisioned, neither is one hundred percent desertion of the PBX. Instead some reasonable distribution of services is likely.

D. Schedule

Phase 1	Architecture Requirements, Analysis, Selection	Jan 86 - Oct 86
Phase 2	System Design/Specification/Award	Oct 86 - Jan 87
Phase 3	Acquisition	Jan 87 - Oct 87
Phase 4	Installation/Transition	Oct 87 - Oct 88

E. Risk Assessment - Risks are difficult to project at this time. Technical risk is likely because technology is not yet commercially available though is projected to be available by acquisition time. Cost of a large number of requests for service may present a problem.

F. Space Requirements - Space requirements are not yet determined.

S E C R E T

5. INTER-BUILDING COMMUNICATIONS SYSTEM

25X1 A. Description/Scope - This project will provide both secure
25X1 and non-secure connectivity between the existing and new
Headquarters buildings. [REDACTED]

B. Purpose - There are two primary requirements for the inter-building communications system: to provide connectivity between a variety of systems in the two buildings, allowing a transparent cutover to take place as functions are shifted from one building to the other; and to provide the secure and non-secure connectivity that is required to link systems that will be permanently located in each of the two buildings. These systems include telephone (both secure and non-secure), data, video, message distribution, etc.

25X1 C. Resources/Staffing - Development of the inter-building communications system architecture will take place in FY-85 and will be primarily a contracted effort. Direction for this effort will come from the OC-ED/BPO segment manager in concert with the affected operational areas, both inside and outside of OC. This project has been funded at [REDACTED] in FY-86 which will include the hardware and contractual effort to implement the bulk of the system.

Schedule

Phase 1	Requirements, & Analysis, Architecture Evaluation & Selection	Oct 84 - Jun 85
Phase 2	System Design/Specification/Award	Jun 85 - Jun 86
Phase 3	Acquisition	Jun 86 - Sep 87
Phase 4	Installation/Transition (Old Bldg.) (Both Bldgs.)	Aug 86 - Jan 87 Jan 87 - Jul 88

E. Risk Assessment - No major risk areas have been identified with this effort to date. It is intended to utilize existing hardware and technology wherever possible, minimizing procurement time and cost. Accommodating any nonstandard interconnect requirements which have not as yet been identified may impact the project funding as special interface development has not been funded. As the architecture and requirements are solidified, any risk in this area will be identified.

S E C R E T

F. Space requirements - Approximately 1200 square feet will be required in both the new and old buildings to accommodate the equipment to provide the desired connectivity. This area will be divided between secure and non-secure systems, with the apportionment dependent upon the magnitude of each system.

S E C R E T

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6. Transmission Systems

A. Description/Scope - A variety of Agency owned microwave systems (Headquarters Area Transmission System - HATS) and commercially leased telephone and data services are currently operational in the present Headquarters building. The new building will require interfacing with all of these systems in order to provide efficient communications services for its occupants. This project will delineate these requirements as well as detail and effect their implementation.

B. Purpose - The present microwave and leased line transmission systems encompass thousands of individual circuits ranging in speed from 75 bits per second to more than 1.5 million bits per second. The hardware supporting this wide range of circuitry ranges from relatively modern to technology that is more than forty years old. The purpose of this effort is not only to provide communications connectivity to the new building, but to review the existing network architecture and hardware, in order to provide the most efficient service to both old and new buildings.

25X1 C. Resources/Staffing - FY-86 [] and FY-87 [] funds
25X1 are programmed to support the leased systems within the project. An additional [] in FY-86 is needed and programmed to support the relocation of Agency owned transmission equipment. Early tasks within those projects will refine the initial estimate. It is possible that minimal funding will be needed in FY-85. The project manager will be a staff employee, while the project engineer(s) will be contractor personnel.

D. Schedule - Transmission Systems

Phase 1	Requirements & Analysis, Architecture Evaluation & Selection	Oct 84 - Jan 85
Phase 2	System Design/Specification/Award	Jan 85 - May 85
Phase 3	Acquisition	May 85 - Jul 86
Phase 4	Installation/Transition	May 85 - Jul 86

E. Risk Assessment - Risk associated with this project should be low from a technical standpoint but should be considered from a scheduling perspective, as an interim relocation of many of the existing commercial services will be required to accommodate reallocation of space in the present building. Any technical risk in this effort will be identified when the architecture for the restructuring of the transmission systems is determined.

S E C R E T

D. Space - Floor space to accommodate the restructuring of existing transmission systems in the old building is currently under review. This includes not only the space required for the hardware but the associated operational and support personnel.

S E C R E T

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7. Communications Operations Center

A. Description/Scope - The present telecommunications operations center (COC) is comprised of the OC message switching, processing, and cable dissemination functions as well as the computer, technical control, cryptographic, multiplex, terminal, and other hardware that supports those functions. It is planned that virtually all COC functions and associated personnel will move to the new building with the exception of a residual cable dissemination facility. The hardware in the new comcenter will be comprised of a portion of the present operational systems as well as new systems which are scheduled to become operational within the next 3 to 4 years. In addition, the both the secure and non-secure telephone operations will be incorporated in the new communications area. These activities are presently separated from the rest of the communications area.

B. Purpose - OC message switching and cable dissemination functions have outgrown the available space within the present Headquarters building. As new systems have been added to the existing comcenter, they have been configured to conform to the space available. This has resulted in less than optimum operational efficiency and limited expansion and reconfiguration options. By establishing a new COC within the new building, these deficiencies can be corrected and provisions made for expanded capabilities, allowing growth of these services in the future years. The net result will be faster, more efficient service for OC customers.

C. Resources/Staffing - Study and design efforts in FY-85 will determine the configuration of the COC and provide specifications for an updated technical control facility. Funding requirements for the COC-related projects are estimated to total [] during FY-86-88. Current acquisition plans entail system design, procurement of long lead items and beginning installation in FY-86 [] completion of approximately two-thirds of the installation effort and procurement of the balance of equipment in FY-87 [] and completion of the installation, cutover, and delivery of a full documentation package in FY-88 []

D. Schedule

Phase 1	Requirements & Analysis, Architecture Evaluation & Selection	Oct 84 - Jun 85
Phase 2	System Design/Specification/Award	Jun 85 - Apr 86
Phase 3	Acquisition	Apr 86 - Jan 88
Phase 4	Installation/Transition	Jan 87 - Jun 88

S E C R E T

E. Risk Assessment - Installation and activation of the new communications center will be a complex and time-consuming project, stretching over a period of at least 18 months. There will be a considerable period of time when comcenter functions will be divided between the old and new buildings. Activation of the new comcenter does not have to coincide with occupancy of the new building, therefore the implementation of the COC can be scheduled to ensure that it does not interfere with activation of those OC systems and functions which must be operational at the time of building occupancy. The cost risks associated with the new comcenter are not clearly defined at this point, but will solidify as the comcenter requirements and design are finalized.

F. Space Requirements - COC space requirements as reflected in the NBPO data base are currently under review by OC. As the design of the comcenter is refined, the floor space required can be more accurately predicted. This review may result in a reallocation of OC spaces.

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